

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/086943 A3

(51) International Patent Classification:

A61M 15/00 (2006.01) *A62B 7/10* (2006.01)
A61M 16/00 (2006.01) *A62B 18/02* (2006.01)
A61M 15/08 (2006.01)

(21) International Application Number:

PCT/US2005/008123

(22) International Filing Date: 9 March 2005 (09.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/552,136 11 March 2004 (11.03.2004) US
 11/074,410 8 March 2005 (08.03.2005) US

(71) Applicant: RIC INVESTMENTS, LLC [US/US]; 801 West Street, 2nd Floor, Wilmington, DE 19801-1545 (US).

(72) Inventors: MATULA, Jerome, Jr.; 224 Elliott Road, Monroeville, PA 15146 (US). EATON, Jason, P.; 222 Elliott Road, Monroeville, PA 15146 (US). STEGMAN, Steven, C.; 3922 Hardt Drive, Gibsonia, PA 15044 (US). STONIS, Luke; c/o Fitch, 10350 Olentangy River Road, P.O. Box 360, Worthington, OH 43085 (US). MERZ, Greg; c/o Fitch, 10350 Olentangy River Road, P.O. Box

360, Worthington, OH 43085 (US). GRIDER, Keith; c/o Fitch, 10350 Olentangy River Road, P.O. Box 360, Worthington, OH 43085 (US). VON DOHEN, Chris; c/o Fitch, 10350 Olentangy River Road, P.O. Box 360, Worthington, OH 43085 (US).

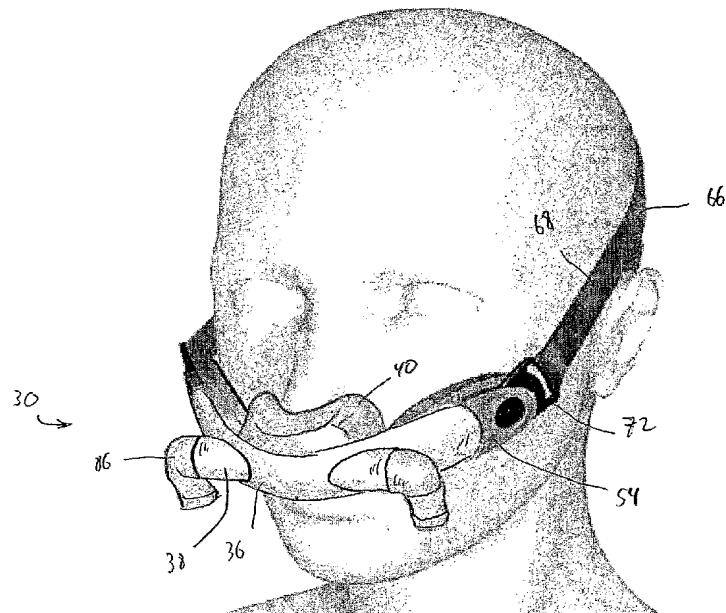
(74) Agents: GASTINEAU, Cheryl, L. et al.; c/o Reed Smith LLP, P.O. Box 488, Pittsburgh, PA 15230-0488 (US).

(81) Designated States (unless otherwise indicated for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

[Continued on next page]

(54) Title: PATIENT INTERFACE DEVICE





SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
7 December 2006

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/08123

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61M 15/00(2006.01),16/00(2006.01),15/08(2006.01);A62B 7/10(2006.01),18/02(2006.01)

USPC: 128/200.24,204.18,206.11,206.13,206.14,206.16,207.13,207.17,207.18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 128/200.24,204.18,206.11,206.13,206.14,206.16,207.13,207.17,207.18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | US 6,119,694 A (CORREA et al) 19 September 2000 (19.09.2000), whole document. | 1,3,4,9,10,12,13 |
| Y | US 4,915,105 A (LEE) 10 April 1990 (10.04.1990), whole document. | 2,5-8, 11,14-16 |
| X,P | US 2003/0034030 A1 (CARLUCCI et al) 20 February 2003 (20.02.2003), whole document. | 1-16 |
| X,P | US 2005/0028822 A1 (SLEEPER et al) 10 February 2005 (10.02.2005), whole document. | 1-16 |
| X,P | US 2004/0226566 A1 (GUNARATNAM et al) 18 November 2004 (18.11.2004), whole document. | 1-16 |
| A,E | US 6,889,689 B1 (NEUMAN) 10 May 2005 (10.05.2005), whole document. | 1-16 |
| A | US 5,724,965 A (HANDKE et al) 10 March 1998 (10.03.1998), whole document. | 1-16 |

Further documents are listed in the continuation of Box C.

See patent family annex.

| | | |
|---|-----|--|
| * Special categories of cited documents: | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "E" earlier application or patent published on or after the international filing date | "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" | document member of the same patent family |
| "O" document referring to an oral disclosure, use, exhibition or other means | | |
| "P" document published prior to the international filing date but later than the priority date claimed | | |

Date of the actual completion of the international search

08 August 2006 (08.08.2006)

Date of mailing of the international search report

18 SEP 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

P.O. Box 1450

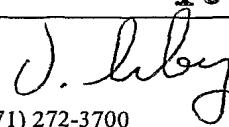
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

For

Henry Bennett



Telephone No. (571) 272-3700

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/08123

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 2003/0172936 A1 (WILKIE et al) 18 September 2003 (18.09.2003), whole document. | 1-16 |